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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,494	09/01/2006	Tsutomu Yamaguchi	056272.58171US	1869

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EXAMINER	
QIN, JIANCHUN	
ART UNIT	PAPER NUMBER
2832	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,494	YAMAGUCHI, TSUTOMU	
	Examiner	Art Unit	
	JIANCHUN QIN	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al. (U.S. Pat. No. 5559297) in view of Oshima (JP 62158757 A) and Ogasa (U.S. Pat. No. 4394457).

Regarding claim 1, Yoshikawa et al. disclose a key (Fig. 1) for a keyboard-based musical instrument (Abstract; col. 1, lines 8-11) characterized by comprising: a key body (11); and a key touch member (12) disposed on the top of said key body (Figs. 1 and 2), made of a water-absorbing material, and for touching the key (col. 2, lines 9-21).

Yoshikawa et al. do not mention expressly: said water-absorbing material is a first synthetic resin having a hydrophilic polymer added thereto; wherein the hydrophilic polymer has a hydrophilic group in a main chain or a side chain thereof, and is substantially uniformly dispersed in a base within said key touch member and unevenly distributed in an area near a surface of said key touch member.

Oshima discloses a key for a keyboard-based musical instrument including a key touch member, wherein the key touch member is made of a synthetic resin having a hydrophilic polymer added thereto (Abstract), and wherein the hydrophilic polymer is

substantially uniformly dispersed in a base within said key touch member and unevenly distributed in an area near the key top surface of the key touch member (by inherency, Oshima's hydrophilic polymer is blended into the synthetic resin, therefore, is randomly but uniformly dispersed into the synthetic resin, resulting in said hydrophilic polymer randomly and unevenly distributed in any area of the key touch member including the area near the key top surface of the key touch member).

Since both Yoshikawa and Oshima pertain to structure of keyboard, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Yoshikawa et al. to include a key top member made of a synthetic resin having a hydrophilic polymer added thereto, as taught by Oshima, in order to obtain a key top surface having water-absorbing properties and being good to the touch (Oshima, Abstract) which can serve as a top, playing surface of the Key, while the body of the key can be made of other material separately on the basis of its suitability and cost-effectiveness (Yoshikawa et al., col. 1, lines 28-31; col. 2, lines 9-21 and lines 36-39).

Ogasa teaches a water-absorbing composite material including a body formed of a hydrophobic polymer and a layer of a hydrophilic polymer provided over at least a portion of the interior surface of the body (Abstract); wherein said hydrophilic polymer has a hydrophilic group in a main chain or a side chain thereof (col. 1, lines 65-68).

In view of the teaching of Ogasa, one having ordinary skill in the art at the time the invention was made would be able to select a hydrophilic polymer, which has a hydrophilic group in a main chain or a side chain thereof, to be applied to the

combination of Yoshikawa and Oshima, since it has been held to be within the general skill of worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 2, Yoshikawa et al. do not mention expressly: said first synthetic resin is one of an acrylonitrile butadyenne styrene resin, an acrylonitrile-styrene resin, and an acrylic resin.

Yoshikawa et al. disclose: said key body is made of an acrylonitrile butadyenne styrene (ABS) resin (col. 2, lines 9-21).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Yoshikawa et al. and Oshima to use ABS resin as the first synthetic resin such that production of the key touch member can be efficiently conducted (Oshima, Abstract).

Regarding claim 3, Yoshikawa et al. disclose: said key body is made of ABS resin without the hydrophilic polymer added thereto, and said key touch member is adhered to said key body (Figs. 1-2; col. 2, lines 9-21).

Regarding claim 4, Yoshikawa et al. do not mention expressly: said key body is made of one of said first synthetic resin having the hydrophilic polymer added thereto and a second synthetic resin without the hydrophilic polymer added thereto, and is integrally molded with said key touch member.

Oshima discloses: a key body is made of a first synthetic resin having the hydrophilic polymer added thereto, and is integrally molded with a key touch member (Abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Yoshikawa et al. to make a key, having a key touch member integrally molded with the key body, made of a first synthetic resin having a hydrophilic polymer added thereto, as taught by Oshima, such that the key not only has water-absorbing properties but also is good to the touch, and further, production can be efficiently conducted (Oshima, Abstract).

Response to Arguments

3. Applicant's arguments filed 04/23/09 with respect to claims 1-4 have been considered but they are not persuasive.

Applicant argues that "…. this more-particularly claimed uniform dispersal in the base, where there is uneven distribution in an area near the surface, cannot be argued to be inherent since the inherency requires random or uneven distribution in any area of the key touch member, …." The argument is not persuasive. The Examiner's position is that, giving the claims the broadest reasonable interpretation, the combination of the prior art of record does disclose or teach or suggest the limitation "the hydrophilic polymer has a hydrophilic group in a main chain or a side chain thereof, and is substantially uniformly dispersed in a base within said key touch member and unevenly distributed in an area near a surface of said key touch member." The examiner considers that Yoshikawa discloses a key having a key touch member, made of a water-absorbing material, disposed on the top of the key body. Yoshikawa is not clear that said water-absorbing material is a first synthetic resin having a hydrophilic polymer

added thereto; and wherein the hydrophilic polymer has a hydrophilic group in a main chain or a side chain thereof, and is substantially uniformly dispersed in a base within said key touch member and unevenly distributed in an area near a surface of said key touch member. However, the combination of Yoshikawa with Oshima's teaching of a keyboard material which has water-absorbing properties reads on the claim. Since both Yoshikawa and Oshima pertain to structure of keyboard, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Yoshikawa et al. with including a key top member made of a synthetic resin having a hydrophilic polymer added thereto, as taught by Oshima, in order to obtain a key top surface having water-absorbing properties and being good to the touch (Oshima, Abstract). The examiner asserts that, Oshima does disclose or teach or suggest the feature argued by the Applicant: the hydrophilic polymer is substantially uniformly dispersed in a base within said key touch member and unevenly distributed in an area near a surface of said key touch member. The examiner's reason for his assertion is that Oshima's hydrophilic polymer is blended into the synthetic resin, therefore, is randomly but uniformly dispersed into the synthetic resin, resulting in said hydrophilic polymer randomly/unevenly distributed in any area of the key touch member including the area near the key top surface of the key touch member. A uniformly distributed random permutation of a set of particles is well known in the art. The rejection is therefore maintained.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JIANCHUN QIN/
Examiner, Art Unit 2832